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Attorney Docket No.: 396421

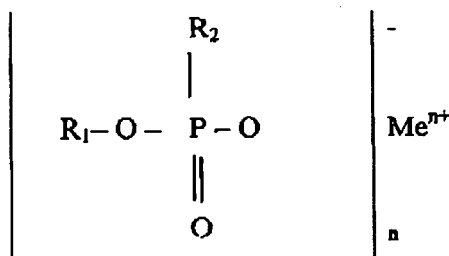
### AMENDMENTS TO THE CLAIMS:

The claims are amended as follows:

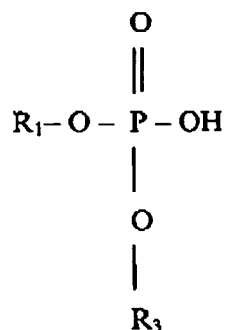
1-54. (Cancelled)

55. (New) An aqueous solution for mitigating fungal and bacterial diseases in plants, said aqueous solution comprising effective amounts of

- (a) at least one first composition selected from the group consisting of  $(\text{NH}_4)_2\text{HPO}_3$  and compounds having the following formula:

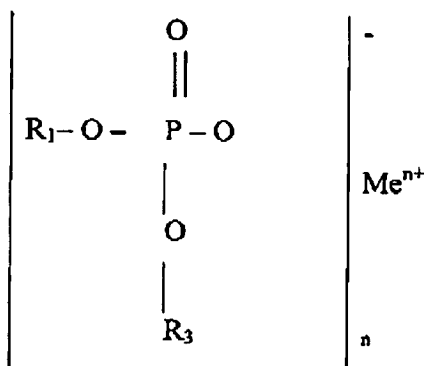


- (b) at least one second composition selected from the group consisting of  $(\text{NH}_4)_2\text{HPO}_4$ ,  $(\text{NH}_4)_3\text{PO}_4$ , and compounds having the following formula:



or the formula:

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where  $\text{R}_1$  is selected from the group consisting of H, K, an alkyl radical containing from 1 to 4 carbon atoms, halogen-substituted alkyl or nitro-substituted alkyl radical, an alkenyl, halogen-substituted alkenyl, alkynyl, halogen-substituted alkynyl, alkoxy-substituted alkyl radical, ammonium substituted by alkyl or hydroxy alkyl radicals;

$\text{R}_2$  and  $\text{R}_3$  are selected from the group consisting of H and K;

Me is selected from the group consisting of K, alkaline earth metal cations, an aluminum atom, and an ammonium cation;

$n$  is a whole number equal to between 1 and 3, equal to the valence of Me; and

(c) at least one metal chelate wherein the metal of said metal chelate is a metal selected from the group consisting of iron, zinc, manganese, copper and combinations thereof, and the chelate of said metal chelate is selected from the group consisting of EDTA, HEEDTA, DTPA, pEDDHA, EDDHA, EDDHMA and combinations thereof,

the metal chelate being present in amount of at least about 1% by weight of metal in the solution.

56. (New) The aqueous solution of Claim 55, wherein the concentration of said metal chelate in said aqueous solution is such that, when said aqueous solution is applied to one acre, about 0.01 to about 2 pounds metal of said metal chelate is applied to that acre.

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57. (New) The aqueous solution of Claim 56 wherein the concentration of said metal chelate in said aqueous solution is such that, when said aqueous solution is applied to one acre, about 0.01 to about 0.8 pounds metal of said metal chelate is applied to that acre.

58. (New) The aqueous solution of Claim 55 wherein said metal of said metal chelate is a metal selected from the group consisting of zinc, manganese and copper and combinations thereof.

59. (New) The aqueous solution of Claim 55 wherein said metal chelate has a solubility equal to about 100% where at least 80 pounds of said metal chelate are dissolved in 100 gallons of water at 50° C.

60. (New) The aqueous solution of Claim 55 wherein said metal chelate is added in an amount (on a metal basis) equal to between 1% and 5% by weight of the aqueous solution.

61. (New) The aqueous solution of Claim 58 wherein said metal chelate is selected from the group consisting of Cu-EDDHA, Cu-pEDDHA, Cu-EDDHMA, and combinations thereof.

62. (New) The aqueous solution composition of Claim 55 wherein said at least one first composition is selected from the group consisting of  $K_2HPO_3$ ,  $KH_2PO_3$ ,  $(NH_4)H_2PO_3$ , and  $(NH_4)_2HPO_3$ ; and said at least one second composition is selected from the group consisting of  $K_2HPO_4$ ,  $KH_2PO_4$ ,  $K_3PO_4$ ,  $(NH_4)_2HPO_4$ ,  $(NH_4)H_2PO_4$ , and  $(NH_4)_3PO_4$ .

63. (New) The aqueous solution composition of Claim 55 wherein said composition is in an aqueous solution, wherein each said at least one said first composition and at least one said second composition is present in solution from about 0.1 millimolar to about 1000 millimolar.

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64. (New) The aqueous solution composition of Claim 63 wherein said composition is in an aqueous solution, wherein each said at least one said first composition and at least one said second composition is present in solution from about 20 millimolar to about 200 millimolar.

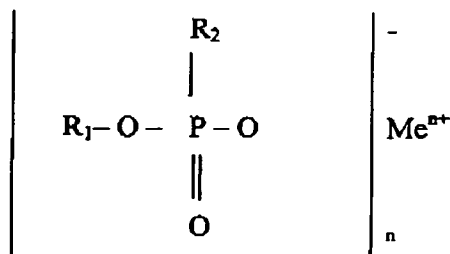
65. (New) The aqueous solution composition of Claim 55 wherein the weight ratio of said at least one first composition to said at least one second composition is 1:0.001 to 1:1,000.

66. (New) The aqueous solution composition of Claim 55 wherein said composition treats or prevents diseases caused by *Phytophthora*.

67. (New) The aqueous solution composition of Claim 66 wherein said composition treats or prevents diseases caused by *Phytophthora infestans*.

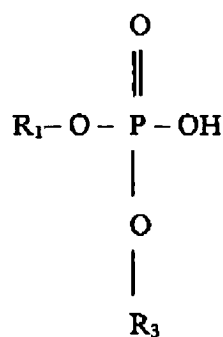
68. (New) The aqueous solution composition of Claim 55 wherein the plants are tomato and potato species.

69. (New) A method for controlling fungal and/or bacterial disease wherein said method comprises applying to a plant an aqueous solution of fungicidally and/or bactericidally effective amounts of at least one metal chelate, at least one phosphate, and at least one phosphonate salt in aqueous solution, wherein said phosphonate salt is selected from a group consisting of  $(\text{NH}_4)_2 \text{HPO}_3$  and compounds having the following formula:

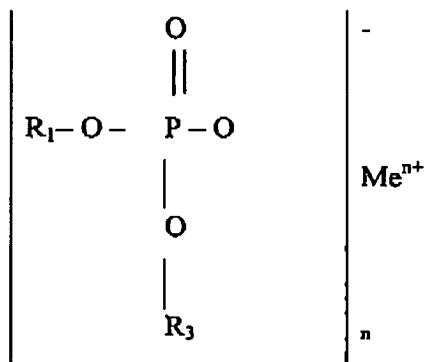


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said phosphate is selected from a group consisting of  $(\text{NH}_4)_2\text{HPO}_4$ ,  $(\text{NH}_4)_3\text{PO}_4$ ,  
and compounds having the following formula:



or the formula:



where  $\text{R}_1$  is selected from the group consisting of H, K, an alkyl radical containing from 1 to 4 carbon atoms, halogen-substituted alkyl or nitro-substituted alkyl radical, an alkenyl, halogen-substituted alkenyl, alkynyl, halogen-substituted alkynyl, alkoxy-substituted alkyl radical, ammonium substituted by alkyl or hydroxy alkyl radicals;

$\text{R}_2$  and  $\text{R}_3$  are selected from the group consisting of H and K;

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Me is selected from the group consisting of K, alkaline earth metal cations, an aluminum atom, and an ammonium cation;

n is a whole number equal to between 1 and 3, equal to the valence of Me; and said metal of said metal chelate is a metal selected from the group consisting of iron, zinc, manganese, copper and combinations thereof, and the chelate of said metal chelate is selected from the group consisting of EDTA, HEHEEDTA, DTPA, pEDDHA, EDDHA, EDDHMA and combinations thereof,

the metal chelate being present in amount of at least about 1% by weight of metal in the solution.

70. (New) The method of Claim 69 wherein the concentration of said metal chelate in said aqueous solution is such that, when said aqueous solution is applied to one acre, about 0.01 to about 2 pounds metal of said metal chelate is applied to that acre.

71. (New) The method of Claim 69 wherein the concentration of said metal chelate in said aqueous solution is such that, when said aqueous solution is applied to one acre, about 0.01 to about 0.8 pounds metal of said metal chelate is applied to that acre.

72. (New) The aqueous solution of Claim 69 wherein the metal of said metal chelate is a metal selected from the group consisting of zinc, manganese and copper and combinations thereof.

73. (New) The method of Claim 69 wherein said metal chelate has a solubility equal to about 100% where at least 80 pounds of said metal chelate are dissolved in 100 gallons of water at 50° C.

74. (New) The method of Claim 69 wherein said metal chelate is added in an amount (on a metal basis) equal to between 1 % and 5% by weight of the aqueous solution.

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75. (New): The method of Claim 72 wherein said metal chelate is selected from the group consisting of Cu-EDDHA, Cu-pEDDHA, Cu-EDDHMA, and combinations thereof.

76. (New) The method of Claim 69 wherein said phosphonate salt is selected from the group consisting of  $K_2HPO_3$ ,  $KH_2PO_3$ , and  $(NH_4)H_2PO_3$ , and said phosphate is selected from the group consisting of  $K_2HPO_4$ ,  $KH_2PO_4$ ,  $K_3PO_4$ , and  $(NH_4)H_2PO_4$ .

77. (New) The method of Claim 69 wherein said phosphonate salt and said phosphate are each present in said aqueous solution from about 0.1 millimolar to about 1000 millimolar.

78. (New) The method of Claim 77 wherein said phosphonate salt and said phosphate are each present in said aqueous solution from about 20 millimolar to about 200 millimolar.

79. (New) The method of Claim 69 wherein the weight ratio of said phosphonate-salt to said phosphate is 1:0.001 to 1:1,000.

80. (New) The method of Claim 69 wherein said aqueous solution is used against diseases caused by *Phytophthora*.

81. (New) The method of claim 80 wherein said aqueous solution is used against diseases caused by *Phytophthora infestans*.

82. (New) The method of Claim 69 wherein the plants are tomato and potato species.

83. (New) A method of controlling fungal and/or bacterial disease in plants comprising applying to the plants in enhanced fungicidally and/or bactericidally effective amounts an aqueous solution composition comprising:

- (a) an aqueous solution of  $H_3PO_3$  and KOH, wherein the  $H_3PO_3$  and KOH react in an equilibrium reaction to form potassium phosphonate,

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- (b) an aqueous solution of monopotassium phosphate and KOH, wherein the monopotassium phosphate and KOH react in an equilibrium reaction to form dipotassium phosphate, and
  - (c) a metal chelate wherein the metal of said metal chelate is a metal selected from the group consisting of iron, zinc, manganese, copper and combinations thereof, and the chelate of said metal chelate is selected from the group consisting of EDTA, HEEDTA, DTPA, pEDDHA, EDDHA, EDDHMA and combinations thereof,
- the metal chelate being present in amount of at least about 1% by weight of metal in the solution.

84. (New) The method of Claim 83 wherein the amount of potassium phosphonate in said aqueous solution (a) and the amount of dipotassium phosphate in said aqueous solution (b) are each present in said composition in an amount from about 0.1 millimolar to about 1000 millimolar.

85. (New) The method of Claim 83 wherein the weight ratio of potassium phosphonate prepared from solution (a) in said composition to dipotassium phosphate prepared from solution (b) in said composition is 1:0.001 to 1:1,000.

86. (New) The method of Claim 83 wherein the concentration of said metal chelate in said composition is such that when said composition is applied to one acre, about 0.01 to about 2 pounds metal of said metal chelate is applied to that acre.

87. (New) The method of Claim 83 wherein said metal of said metal chelate is selected from the group consisting of iron, zinc, manganese, copper, and combinations thereof.

88. (New) A method of controlling fungal and/or bacterial disease in plants comprising applying to the plants in enhanced fungicidally and/or bactericidally effective amounts an aqueous solution composition prepared by mixing:



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- (a) an aqueous solution of  $\text{H}_3\text{PO}_3$  and KOH, wherein the  $\text{H}_3\text{PO}_3$  and KOH react in an equilibrium reaction to form potassium phosphonate,
- (b) an aqueous solution of monopotassium phosphate and KOH, wherein the monopotassium phosphate and KOH react in an equilibrium reaction to form dipotassium phosphate, and
- (c) a metal chelate wherein the metal of said metal chelate is a metal selected from the group consisting of iron, zinc, manganese, copper and combinations thereof, and the chelate of said metal chelate is selected from the group consisting of EDTA, HEEDTA, DTPA, pEDDHA, EDDHA, EDDHMA and combinations thereof,

the metal chelate being present in amount of at least about 1% by weight of metal in the solution.

89. (New) The method of Claim 88 wherein the amount of potassium phosphonate in said aqueous solution (a) and the amount of dipotassium phosphate in said aqueous solution (b) are each present in said composition in an amount from about 0.1 millimolar to about 1000 millimolar.

90. (New) The method of Claim 88 wherein the weight ratio of potassium phosphonate prepared from solution (a) in said composition to dipotassium phosphate prepared from solution (b) in said composition is 1:0.001 to 1:1,000.

91. (New) The method of Claim 88 wherein the concentration of said metal chelate in said composition is such that when said composition is applied to one acre, about 0.01 to about 2 pounds metal of said metal chelate is applied to that acre.

92. (New) The method of Claim 88 wherein said metal of said metal chelate is selected from the group consisting of iron, zinc, manganese, copper, and combinations thereof.

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93. (New) A method of controlling fungal and/or bacterial disease in plants comprising applying to the plants in enhanced fungicidally and/or bactericidally effective amounts an aqueous solution composition comprising:

- (a) an aqueous solution of  $H_3PO_3$  and KOH, wherein the  $H_3PO_3$  and KOH react in an equilibrium reaction to form potassium phosphonate,
- (b) an aqueous solution of dipotassium phosphate, and
- (c) a metal chelate wherein the metal of said metal chelate is a metal selected from the group consisting of iron, zinc, manganese, copper and combinations thereof, and the chelate of said metal chelate is selected from the group consisting of EDTA, HEEDTA, DTPA, pEDDHA, EDDHA, EDDHMA and combinations thereof,

the metal chelate being present in amount of at least about 1% by weight of metal in the solution.

94. (New) The method of Claim 93 wherein the amount of potassium phosphonate in said aqueous solution (a) and the amount of dipotassium phosphate in said aqueous solution (b) are each present in said composition in an amount from about 0.1 millimolar to about 1000 millimolar.

95. (New) The method of Claim 93 wherein the weight ratio of potassium phosphonate prepared from solution (a) in said composition to dipotassium phosphate prepared from solution (b) in said composition is 1:0.001 to 1:1,000.

96. (New) The method of Claim 93 wherein the concentration of said metal chelate in said composition is such that, when said composition is applied to one acre, about 0.01 to about 2 pounds metal of said metal chelate is applied to that acre.

97. (New) The method of Claim 93 wherein said metal of said metal chelate is selected from the group consisting of iron, zinc, manganese, copper, and combinations thereof.

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98. (New) A method of controlling fungal and/or bacterial disease in plants comprising applying to the plants in enhanced fungicidally and/or bactericidally effective amounts an aqueous solution composition prepared by mixing:

- (a) an aqueous solution of  $\text{H}_3\text{PO}_3$  and  $\text{KOH}$ , wherein the  $\text{H}_3\text{PO}_3$  and  $\text{KOH}$  react in an equilibrium reaction to form potassium phosphonate,
- (b) an aqueous solution of dipotassium phosphate, and
- (c) a metal chelate wherein the metal of said metal chelate is a metal selected from the group consisting of iron, zinc, manganese, copper and combinations thereof, and the chelate of said metal chelate is selected from the group consisting of EDTA, HEEDTA, DTPA, pEDDHA, EDDHA, EDDHMA and combinations thereof,

the metal chelate being present in amount of at least about 1% by weight of metal in the solution.

99. (New) The method of Claim 98 wherein the amount of potassium phosphonate in said aqueous solution (a) and the amount of dipotassium phosphate in said aqueous solution (b) are each present in said composition in an amount from about 0.1 millimolar to about 1000 millimolar.

100. (New) The method of Claim 98 wherein the weight ratio of potassium phosphonate prepared from solution (a) in said composition to dipotassium phosphate prepared from solution (b) in said composition is 1:0.001 to 1:1,000.

101. (New) The method of Claim 98 wherein the concentration of said metal chelate in said composition is such that when said composition is applied to one acre, about 0.01 to about 2 pounds metal of said metal chelate is applied to that acre.

102. (New) The method of Claim 98 wherein said metal of said metal chelate is selected from the group consisting of iron, zinc, manganese, copper, and combinations thereof.